Makerspaces Across Settings: Didactic Design for Programming in Formal and Informal Teacher Education in the Nordic Countries

# Details

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* Learning
* Internet usage, practices and engagement
* Digital and socio-cultural environment

## Sample

Three cases on how learning spaces can be designed in the interface between makerspace and formal higher education: one from Finland and two from Sweden.

## Implications For Educators About

## Implications For Policy Makers About

Other

## Other PolicyMaker Implication

digital competence of teacher education educators

## Implications For Stakeholders About

Researchers

# Abstract

For education to provide knowledge reflecting our current and future society, many countries are revising their curricula, including a vivid discussion on digital competence, programming and computational thinking. This article builds an understanding of the maker movement in relationto education in programming, by demonstrating challenges and possibilities in the interface between Makerspaces and teacher education. Three different Nordic initiatives are presented and their designs for learning are analysed. The article illustrates how Makerspaces and teacher education can be transformed by each other; how Makerspaces can be used in programming activities and what challenges and possibilities emerge in the meeting between the two. The results highlight a core aspect of the maker movement: authenticity. Designs for learning have different levels of authenticity, but in all cases authenticity has been a positive factor. These hands-on learning environments are designed to foster collaboration, share ideas and innovation with people from different backgrounds to transform and form multimodal representations together. In the interface between the formal and informal a potential for inclusion and creation of spaces that reach individuals from different backgrounds is found. Mobile learning is a phenomenon that the making movement together with teacher education can make use of, at for example practice schools, university campuses, mobile Makerspaces or“open-door”-approaches. In the digital environment learning is distributed, but collaboration between formaland informal education is so far complicated to establish, meaning that the academy needs to find more creative and flexible ways of making connections outside the academy.

# Outcome

"Mobile learning is a phenomenon that the making movement together with teacher education can make use of, at for example practice schools, university campuses, mobile Makerspaces or “open-door”-approaches. In the digital environment learning is distributed, but collaboration between formal and informal education is so far complicated to establish, meaning that the academy needs to find more creative and flexible ways of making connections outside the academy." (Authors, in Abstract)